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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,213	12/11/2003	George S. Pabis	12093/929	7999
26646	7590	11/19/2007		
KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004			EXAMINER PALABRICA, RICARDO J	
			ART UNIT 3663	PAPER NUMBER
			MAIL DATE 11/19/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/733,213

Applicant(s)

PABIS ET AL.

Examiner

Rick Palabrica

Art Unit

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 October 2007 and 20 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9-21 is/are pending in the application.
- 4a) Of the above claim(s) 15, 18 and 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-14, 16, 17, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicant's 10/16/07 Election without traverse of species A (trapezoidal shaped projection), with claims 9-14, 16, 17, 19 and 20 readable thereon, and his 7/20/07 Response, which directly amended claim 9, and added new claims 11-21, are acknowledged.

Applicant's arguments have been fully considered but are moot in view of new grounds for rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 9-13, 16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Berglund (U.S. 5,465,282).

As to claims 9-12, applicant's claim language reads on Berglund as follows (e.g., see Fig. 2): a) "repair sleeve having a shaft with first end, second end and diameter" reads on guide sleeve 12; b) "guide thimble" reads on the combination of top sleeve 8 and thimble 4; c) "at least two tendons extending through openings" reads on the two legs of guide sleeve 12 that are separated by slit 20 (see Fig. 4); d) "lapped edge" reads

on flange 13 atop guide sleeve 12; e) "projections of tendons" reads on heads 14 (see also col. 3, lines 2+).

Note that slit 20 cuts across the entire diameter of guide sleeve 12 and separates the sleeve into two equal parts. Applicant's claim language, "openings" reads on the two slits 20 on the opposing walls of the sleeve shown in Fig. 4. Note that the tendons (i.e., two legs of sleeve 12) extend through the openings provided by the two opposing slits.

The process of inserting the guide sleeve 12 into the top nozzle to replace, e.g., a damaged guide sleeve, which is an integral element of Berglund's fuel assembly, reads on the claimed process of repairing a nuclear fuel assembly. Note that the replacement guide sleeve 12 has to be inserted in the guide thimble opening 11, and when this sleeve is fully inserted, the projections of the tendons (i.e., heads 14) project into the dimples (i.e., slots 10) of the guide thimble (see Fig. 2).

A tool must inherently insert the replacement guide sleeve 12 into the opening 11 and ensure that this sleeve is properly installed. The tool for inserting this thimble reads of applicant's claim language, "thimble insert assembly",

As to claims 13, 16 and 19, Berglund discloses hemispherical projections (e.g., see Fig. 4).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 14, 17, and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Berglund, who discloses the applicant's claim limitations except for the trapezoidal projection.

Applicant has not identified any specific advantage of a trapezoidal shape of the projection over a hemispherical shape. In fact, applicant himself admits that other appropriate geometry can be used, in addition to either a trapezoidal or hemispherical shape (see page 5, line 15 of the specification). Thus, using a projection with a trapezoidal shape instead of the hemispherical shape in Berglund's invention is matter of design choice.

4. Claims 9-14, 16, 17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Feild, Jr. (U.S. 4,699,759) or Delevallee et al. (U.S. 4,751,039) in view of either Patterson et al. (U.S. 4,699,759) or Berglund. Either one of Feild, Jr. or Delevallee et al. disclose the applicant's claim limitations except for the tendons and the trapezoidal shape of the projections.

Feild, Jr.

As to claims 9-12, applicant's claim language reads on Feild, Jr. as follows (e.g., see Fig. 5): a) "repair sleeve having a shaft with first end, second end and diameter" reads on locking tube 58 (see also col. 6, line 50); b) "guide thimble" reads on guide thimble 14, including upper end portion 38; c) "lapped edge" reads on flange 64 atop locking tube 58; d) "projections" reads on protruberances 60, 62 (see also col. 6, lines 65+).

Either one of Patterson et al. or Berglund teach that it is old and advantageous to provide longitudinal slots in sleeves associated with guide thimbles in order to provide resiliency and facilitate insertion of these sleeves in a fuel assembly (see Fig. 11 and col. 5, lines 10+ in Patterson et al., or Fig. 4 and col. 3, lines 24+ in Berglund).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention, as disclosed by Feild, Jr., by the teaching of either Patterson et al. or Berglund, to provide longitudinal slots for locking tube 58, to gain the advantages thereof (i.e., provide resiliency), because such modification is no more than the use of a well-known expedient within the art. The resulting combination would have at least two tendons extending through the openings provided by the longitudinal slots, with each tendon having one projection.

Similar to the case of Berglund, the process of replacing a defective locking tube 58 by another locking tube reads on the claimed process. Likewise, a tool must inherently insert the replacement locking tube into an opening of the top nozzle of the nuclear fuel in Feild, Jr., to ensure that this replacement locking tube is properly installed. The tool for inserting this replacement tube reads of applicant's claim language, "thimble insert assembly".

Delevallee et al.

Applicant's claim language reads on Delevallee et al. as follows (e.g., see Figs. 2-4): a) "repair sleeve having a shaft with first end, second end and diameter" reads on cap 40 (see also col. 4, lines 44+); b) "lapped edge" reads on collar 42 atop cap 40; c) "projections" reads on the expansions of cap 40.

The Delevallee et al. reference, which is directed to a sleeve of an instrumentation tube of nuclear fuel element, is relevant to the instant application. It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both the instrumentation tube and the guide tube are components of a nuclear fuel element and both are well-known in the art to be repaired by insertion of a sleeve within the tube.

The examiner notes that the claims do not define the dimensions of the guide thimble wherein the repair sleeve is inserted. Absent such definition, the examiner interprets the claim limitation broadly and reads the cap 40 of Delevallee et al. as capable of being configured to fit into an appropriately sized guide thimble.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention, as disclosed by Delevallee et al., by the teaching of either Patterson et al. or Berglund, to provide longitudinal slots for cap 40, to gain the advantages thereof (i.e., provide resiliency), because such modification is no more than the use of a well-known expedient within the art. The resulting combination would have at least two tendons extending through the openings provided by the longitudinal slots, with each tendon having one projection.

Additionally, the claims would have been obvious over the above combination because a person of ordinary skill has good reason to pursue the known option of

sleeve replacement as taught by Delevallee et al., which is related to the claimed method and within the technical grasp of said artisan. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.

Similar to the case of Berglund, the process of replacing a defective cap 40 by another cap 40 reads on the claimed process. Likewise, a tool must inherently insert the replacement cap 40 into an opening of the top nozzle of the nuclear fuel in Delevallee et al., to ensure that this replacement locking tube is properly installed. The tool for inserting this replacement cap reads of applicant's claim language, "thimble insert assembly".

As to claims 13, 16 and 19, either one of Feild, Jr. or Delevallee et al. teach hemispherical projections (e.g., see Fig. 5 in Feild, Jr. or Fig. 4 in Delevallee et al.).

As to claims 14, 17 and 20, applicant has not identified any specific advantage of a trapezoidal shape of the projection over a hemispherical shape. In fact, applicant himself admits that other appropriate geometry can be used, in addition to either a trapezoidal or hemispherical shape (see page 5, line 15 of the specification). Thus, using a projection with a trapezoidal shape instead of the hemispherical shape in Feild, Jr. or Delevallee et al. is matter of design choice.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP



§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrica whose telephone number is 571-272-6880. The examiner can normally be reached on 6:00-4:30, Mon-Thurs.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RJP

November 15, 2007

  
RICARDO J. PALABRICA  
PRIMARY EXAMINER